

Claims

1. An automatic trim system for a power boat having a hull with a transom and a propulsion system including a motor connected to a propeller through a drive, said propeller and drive being adjustable between various trim positions, said system
5 comprising:

at least one trim tab disposed to rotate about a point near a base of the transom of the boat between (a) a position aft of and lower than the bottom of the hull of the boat and (b) a position where the entire trim tab is out of water and of no effect when the boat is
10 moving above low speed;

first means operable between a first position and a second position and connected to said at least one trim tab so that said at least one trim tab is in said position (a) when said first means is in said first position and is in said position (b) when said first means is
15 in said second position; and

second means responsive to the trim position of said drive to position said first means in said first position when said drive is in the lowest trim position and to position said first means in said second position whenever said drive is in a trim position between a selected
20 pickup trim position and the highest trim position.

2. A system according to claim 1 wherein:
said propulsion system is an outboard motor mounted to the transom by a jack plate;
at least portions of said first and second means are disposed
5 within said jack plate; and
said second means is connected to said motor aft of a tilt tube thereof.

3. A system according to claim 2 wherein:
said second means includes a push tube; and
said first means includes a push rod, a portion of which is
within said push tube, and means for causing said push tube to
engage said push rod at trim positions of said drive between said
5 pickup trim position and the lowest trim position.
4. A system according to claim 1 wherein:
said second means is a push bar extending horizontally
between the drive and the transom and engaged by the drive at said
pickup point, said push bar connected to said first means.
5. A system according to claim 1 wherein:
said first means is a slave fluidic cylinder; and
said second means is a master fluidic cylinder in fluid
communication with said slave fluidic cylinder.
6. A system according to claim 1 wherein:
said first means is a fluidic cylinder; and
said second means includes (a) a fluid pump connected to
said fluidic cylinder, and (b) a position sensor responsive to the trim
5 position of said propeller and drive to provide a position signal
indicative thereof;
said pump providing fluid under pressure in response to said
position signal.

7. A system according to claim 1 wherein:

said first and second means include first and second rotatable levers and a force transmitting cable extending between said first and second rotatable levers.

8. A method of operating at least one trim tab on a

power boat having a hull with a transom and a propulsion system

including a motor connected to a propeller through a drive, said propeller and drive being adjustable between various trim positions,

5 said at least one trim tab disposed to rotate about a point near a base of the transom of the boat between (a) a position aft of and lower than the bottom of the hull of the boat and (b) a position where the entire trim tab is out of water and of no effect when the boat is moving above low speed, said method comprising:

10 sensing the trim position of said propeller and drive; and positioning said trim tab in direct response to the position of said propeller and drive.

9. Apparatus for operating at least one trim tab on a

power boat having a hull with a transom and a propulsion system

including a motor connected to a propeller through a drive, said propeller and drive being adjustable between various trim positions,

5 said at least one trim tab disposed to rotate about a point near a base of the transom of the boat between (a) a position aft of and lower than the bottom of the hull of the boat and (b) a position where the entire trim tab is out of water and of no effect when the boat is moving above low speed, comprising:

10 first means for sensing the trim position of said propeller and drive; and

means responsive to said first means for positioning said trim tab in direct response to the position of said propeller and drive.

10. A trim system according to claim 1 wherein said second means is responsive to the trim position of said drive to position said first means in positions between said first position and said second position in response to the trim position of said drive being between said lowest trim position and said selected pickup trim position.
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